

19. 1.  $x > 9$  21.  $y < 21$   
 2.  $x > 7$  22.  $y > 21$   
 3.  $x < 3$  23.  $y < -21$   
 4.  $x \leq 4$  24.  $y > -21$   
 5.  $x \geq 2$  25.  $y > -13$   
 6.  $y \leq -5$  26.  $y < -11$   
 7.  $y \geq -8$  27.  $y > 22$   
 8.  $y \leq -50$  28.  $x < 22$   
 9.  $y > -4$  29.  $x < 44$   
 10.  $y \geq -9$  30.  $x < -30$   
 11.  $y < -7$  31.  $x < -2$   
 12.  $x > -10$  32.  $x \leq -10$   
 13.  $x > -5$  33.  $x \geq -30$   
 14.  $x > -15$  34.  $x \leq 36$   
 15.  $x < -8$  35.  $x > -37$   
 16.  $x < 16$  36.  $x < -100$   
 17.  $x > 12$  37.  $x > 17$   
 18.  $y < -18$  38.  $x < 9$   
 19.  $y < 9$  39.  $x \leq -19$   
 20.  $y > 12$  40.  $x \geq -51$

41.  $y \geq -\frac{1}{2}$  45.  $y < -\frac{1}{3}$   
 42.  $y < \frac{1}{2}$  46.  $y > -5$   
 43.  $y < -\frac{1}{4}$  47.  $x > -\frac{1}{6}$   
 44.  $y < \frac{1}{3}$  48.  $x < -\frac{3}{4}$

The drawing shows a guitar.

20. The exercise numbers for each box are as follows.  
 4 20 16 13 8 Wolf 6 spider  
 27 33 22 30 18 26 14 9  
 10 28 37 23 35 2 1 29  
 19 21 7 38 32 24 34 17  
 3 15 25 11 12 31 36 5

21. The letter for each exercise is as follows.

- |       |       |       |       |
|-------|-------|-------|-------|
| 1. W  | 12. D | 23. R | 34. L |
| 2. H  | 13. Y | 24. L | 35. E |
| 3. O  | 14. A | 25. E | 36. R |
| 4. I  | 15. G | 26. Y | 37. M |
| 5. E  | 16. O | 27. U | 38. H |
| 6. U  | 17. I | 28. D | 39. K |
| 7. T  | 18. N | 29. E | 40. B |
| 8. N  | 19. O | 30. N | 41. O |
| 9. L  | 20. O | 31. S | 42. I |
| 10. S | 21. N | 32. D | 43. D |
| 11. W | 22. O | 33. N | 44. W |

Answer: Sid. Sid Who? Sid down and I'll tell you.

Ben. Ben Who? Ben doing your homework?

22. 1.  $3^{-5}$  15. 27 29.  $x^{-9}$   
 2.  $x^{-4}$  16. 2 30.  $1/x$   
 3.  $c^{-8}$  17. 16 31. 49  
 4.  $3^{-2}$  18. 7 32. 125  
 5.  $7^{-7}$  19.  $1/8$  33. 1000  
 6.  $y^{-10}$  20. 8 34. 0.0001  
 7.  $8^{-3}$  1 35. 0.1  
 8.  $1/3^4$  21.  $729$  36. 4096  
 9.  $1/2^3$  22.  $x^{15}$  37.  $1/49$   
 10.  $1/5^6$  23.  $y^4$  38. 36  
 11.  $1/c^7$  24.  $w^{-10}$  39.  $1/512$   
 12.  $1/e^9$  25.  $x^5$  40. 81  
 13.  $1/x^2$  26.  $m^8$   
 14.  $1/n^5$  27.  $p^{-4}$   
 28. 1

The drawing shows a carafe with apples and grapes.

23. The letter for each exercise is as follows.

- |       |       |       |       |
|-------|-------|-------|-------|
| 1. K  | 11. G | 21. T | 31. C |
| 2. W  | 12. N | 22. C | 32. L |
| 3. P  | 13. G | 23. R | 33. I |
| 4. V  | 14. L | 24. A | 34. U |
| 5. P  | 15. E | 25. E | 35. H |
| 6. R  | 16. M | 26. A |       |
| 7. R  | 17. I | 27. O |       |
| 8. N  | 18. O | 28. D |       |
| 9. D  | 19. S | 29. B |       |
| 10. W | 20. E | 30. P |       |

Answers: American Goshawk, European Coot, Golden Plover, Bleeding Heart Pigeon.

24. The exercise number for each block is as follows.

- |      |    |    |    |    |
|------|----|----|----|----|
| 19   | 17 | 22 | 1  | 18 |
| 12   | 6  | 5  | 3  | 9  |
| 23   | 14 | 27 | 20 | 7  |
| ans. | 26 | 25 | 13 | 11 |
| 15   | 2  | 21 | 10 | 4  |
| 8    | 28 | 29 | 16 | 24 |

Capt. Joersz 3529 km/h.

25. The exercise number for each block is as follows.

- |    |    |   |    |      |
|----|----|---|----|------|
| 13 | 3  | H | 10 | 24   |
| 20 | 23 | A | 17 | 22   |
| 8  | 1  | R | 16 | 6    |
| 18 | 19 | R | A  | Y    |
| 11 | 7  | O | 14 | 1911 |
| 15 | 25 | U | 21 | 2    |
| 5  | 9  | N | 4  | 12   |

Answer: Ray Harroun, 1911

26. A. 1.  $4x-10$  11.  $-0.89t^3+t^2$   
 2.  $2x^2-1$  12.  $-4x^2-16x$   
 3.  $3x^3+11x$  13.  $-5x^2$   
 4.  $2x^2-5x+1$  14.  $4x-10$   
 5.  $5x^2-17x$  15.  $10t^4+2t$   
 6.  $13x^6-6x^2$  16.  $-3t^2$   
 7.  $4x^2+5$  17.  $2x^2-1$   
 8.  $t^2-t$  18.  $3t^2$   
 9.  $t^2-t$  19.  $-3t^2$   
 10.  $18t^3+14$  20.  $3t^2$

- B. 1.  $11x+5$  11.  $-14$   
 2.  $-5x^2$  12.  $11x+5$   
 3.  $-2x^3+3x^2+7$  13.  $13x^6-6x^2$   
 4.  $10x^2$  14.  $-4x^2-16x$   
 5.  $9x^4+18x$  15.  $-2x^3+3x^2+7$   
 6.  $-14$  16.  $5x^2-17x$   
 7.  $2x^2-5x+1$  17.  $-0.89t^3+t^2$   
 8.  $3x^3+11x$  18.  $10x^2$   
 9.  $10t^4+2t$  19.  $18t^3+14$   
 10.  $9x^4+18x$  20.  $4x^2+5$

Figures are positioned as follows.

Trapezoid Right Triangle  
 (5, 10, 16, 19) (1, 12, 14)  
 Rectangle  
 (3, 8, 9, 15)  
 Pentagon Parallelogram  
 (2, 6, 11, 13, 17) (4, 7, 18, 20)

27. The letters for each exercise are as follows.

- |      |       |       |       |
|------|-------|-------|-------|
| 1. R | 8. P  | 15. B | 22. E |
| 2. F | 9. M  | 16. N | 23. H |
| 3. H | 10. A | 17. O | 24. C |
| 4. Y | 11. E | 18. S | 25. N |
| 5. N | 12. K | 19. G | 26. I |
| 6. O | 13. T | 20. P | 27. L |
| 7. S | 14. C | 21. M |       |

Answers: sponge, anemone shrimp, stonefish, manta ray, gooseneck barnacles

28. A B

- |                    |                    |
|--------------------|--------------------|
| 1. $x^2-36$        | 1. $x^2-20x+100$   |
| 2. $9x^2-4$        | 2. $4x^2-25$       |
| 3. $x^4-2x^2+1$    | 3. $9x^4-6x^2+1$   |
| 4. $x^2+10x+25$    | 4. $1-6x^2+9x^4$   |
| 5. $4x^2-12x+9$    | 5. $4-4x+x^2$      |
| 6. $x^2+10x+25$    | 6. $4-12x^3+9x^6$  |
| 7. $9x^2-6x^3+x^4$ | 7. $9x^2-4$        |
| 8. $x^2-324$       | 8. $4x^2-12x+9$    |
| 9. $100-20x+x^2$   | 9. $x^2-121$       |
| 10. $x^4-2x^2+1$   | 10. $4-12x^3+9x^6$ |

The drawing shows overlapping concave quadrilaterals.

29. The exercise numbers for each block are as follows.

- |    |    |    |    |     |
|----|----|----|----|-----|
| 16 | 18 | 3  | 11 | VIN |
| 22 | 12 | 8  | 1  | 14  |
| 5  | 20 | 15 | 19 | CU  |
| 21 | 17 | 2  | 10 | 4   |
| 9  | 7  | 13 | 6  | LUM |

Answer: VINCULUM

30. A B

- |                              |                              |
|------------------------------|------------------------------|
| 1. $6b-3c$                   | 1. $-2c$                     |
| 2. $2x^2y^2-2a^2b^2$         | 2. $-a+5b$                   |
| 3. $-11a+11b+5c$             | 3. $a^3b^4+2a^2b^2-3ab^2-6$  |
| 4. $2xy$                     | 4. $10x^2$                   |
| 5. $2xy$                     | 5. $2a^2-9ab+9b^2$           |
| 6. $6x^2+xy-y^2$             | 6. $-11a+11b+5c$             |
| 7. $x^3-y^3$                 | 7. $-2c$                     |
| 8. $3x^3+2xy^2+x^2y$         | 8. $6b-3c$                   |
| 9. $-c$                      | 9. $a^3-b^3$                 |
| 10. $6x^2+xy-y^2$            | 10. $2a^2-9ab+9b^2$          |
| 11. $-8b$                    | 11. $6x^2y-2xy$              |
| 12. $9m^{10}-a^2c^2$         | 12. $-a+5b$                  |
| 13. $-2c$                    | 13. $-2a$                    |
| 14. $-2a$                    | 14. $-8b$                    |
| 15. $3x^3+2xy^2+x^2y$        | 15. $-2a$                    |
| 16. $6xy^2$                  | 16. $10x^2$                  |
| 17. $-2xy+6x^2y$             | 17. $a^3b^4+2a^2b^2-3ab^2-6$ |
| 18. $2x^2y^2-2a^2b^2$        | 18. $2a^2-9ab+9b^2$          |
| 19. $a^3b^4+2a^2b^2-3ab^2-6$ | 19. $3x^2-3y^2$              |
| 20. $9m^{10}-a^2c^2$         | 20. $x^3-y^3$                |

The drawing is one ten-sided figure inside another, with corresponding vertices connected.